

WHO IS AT RISK OF GETTING BRUCELLOSIS

Continued from page 27

prevention of neglected zoonotic diseases in Uganda. Among the case studies was brucellosis at the human-animal-wildlife interface in diverse agricultural systems, alongside Rift Valley Fever (RVF) and Crimean-Congo Haemorrhagic Fever (CCHF).

The study focused on communities surrounding national parks and game reserves and the findings were released in Entebbe in March.

Dr Alice Namatovu, a lecturer at the College of Veterinary Medicine, Animal Resources and Biosecurity at Makerere University, was part of Dr Lutwama's research team and specifically handled issues related to brucellosis.

According to Dr. Namatovu, human brucellosis prevalence in Uganda is estimated at about 25%. She adds that findings from the research showed significant levels of brucellosis among animals, with prevalence highest in sheep at 52%, followed by goats at 32% and cattle at 14%.

The burden of brucellosis among both humans and animals underscores the need for early recognition of its common signs and symptoms.

SIGNS AND SYMPTOMS

Dr Namatovu says common signs and symptoms of brucellosis in humans include:

1. Fever
2. Chills
3. Sweating
4. Headaches
5. Fatigue
6. Loss of appetite
7. General body weakness
8. Joint, muscle and back pain

Because its symptoms are often non-specific, understanding how brucellosis spreads is key in preventing new infections.

HOW BRUCELLOSIS SPREADS

Dr Namatovu explains that brucellosis is caused by different species of *Brucella* bacteria depending on the animal involved. These include *Brucella abortus* in cattle, *Brucella suis* in pigs, and *Brucella melitensis* in goats.

She adds that brucellosis can spread to humans through several ways, including:

- Drinking unboiled milk
- Eating raw meat
- Consuming raw animal blood
- Breathing in *Brucella* bacteria while handling raw meat
- Touching animal blood or



Haemobrucellosis can spread to humans through several ways, including drinking unboiled milk

POLICY, RESPONSE GAPS

According to Dr Lutwama, brucellosis receives limited attention within the Ministry of Health, despite being elevated and placed among the priority diseases. He also notes that there is no funding directly provided for its control. "One would have expected MAAIF (Ministry of Agriculture, Animal Industry and Fisheries) to take centre stage in the fight against the spread of this disease, however, as you may know, it is government policy that for these diseases of economic concern, since farmers earn from their animals, they should be the ones to pay," Dr. Lutwama adds.

Experts are now calling for increased public awareness, improved testing capacity, strengthened surveillance and a One Health approach that integrates human, animal and environmental health in tackling brucellosis. They warn that many infections may continue going unnoticed if symptoms are repeatedly mistaken for malaria or other common illnesses. The public is also urged to avoid consuming raw animal products and to seek medical attention whenever persistent fever and joint pain fail to improve despite treatment.

birthing fluids with injured hands. In addition to these transmission routes, Lutwama warns that interactions between humans, domestic animals and wildlife around game parks are also increasing the risk of brucellosis transmission.

He explains that some livestock keepers graze domestic animals near or inside protected wildlife areas, exposing them to possible infection from wild animals. He further notes that wild animals such as buffaloes, kobs and elephants sometimes move from protected areas into nearby communities, gardens, and grazing areas, creating opportunities for cross-infection between wildlife, domestic animals, and humans.

But, people involved in

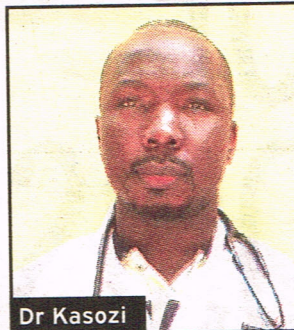
illegal poaching are also at higher risk of contracting zoonotic diseases due to direct exposure to wild animals without protective measures.

Diagnosing brucellosis remains one of the biggest challenges in Uganda, as many cases are often mistaken for malaria or typhoid at initial stages.

ACCESS TO DIAGNOSTICS

Kasozi says, access to brucellosis diagnostic services remains largely concentrated in urban areas such as Kampala, where more advanced tests like blood culture and bone marrow culture are available. However, these tests are rarely accessible in rural health facilities, where most patients first seek care.

He explains that outside major urban centers, the



Dr Kasozi



Namatovu

commonly available test is the *Brucella* Agglutination Test (BAT) with its, limitations, in producing accurate diagnosis.

Experts also note that follow-up monitoring of patients on treatment is difficult in rural areas due to limited access to repeat testing and diagnostic tools. In some cases, essential medicines for brucellosis management are also not consistently available, thereby affecting continuity of care in rural areas.

BRUCELLOSIS TREATMENT

Brucellosis is curable, although treatment may take between six and eight weeks to complete, Dr Kasozi says.

Early diagnosis and treatment, Dr Kasozi adds, helps to prevent complications. He explains that when brucellosis is not treated on

TRICKY DIAGNOSIS

Dr. Derrick Kasozi from Makerere University Hospital says brucellosis is commonly mistaken for malaria and typhoid because it often presents with recurring fever and symptoms that closely resemble the two diseases. He explains that the fever may go temporarily, return and continue in episodes, making it easy for many patients and health workers to suspect malaria instead.

He also notes that brucellosis tests are less available compared to malaria and typhoid tests, adding that some health workers still face challenges in correctly interpreting brucellosis test results.

Dr. Kasozi says the gold standard test for brucellosis is blood culture, a laboratory test that detects and grows *Brucella* bacteria from the patient's blood sample. He explains that the test is more confirmatory because it helps doctors establish the presence of the bacteria and determine the most effective treatment.

However, blood culture tests are relatively expensive, costing about sh80,000 to sh100,000, and may take up to a week for results to return. In severe cases, doctors may conduct a bone marrow culture, which is more costly at about sh300,000. Dr. Kasozi notes that blood culture testing is rarely conducted in Uganda.

Other tests include the *Brucella* Agglutination Test (BAT), which checks for antibodies against brucellosis in the body. Dr. Kasozi says BAT is the most commonly used brucellosis test in Uganda because it is cheaper, costing about UGX10,000 to UGX20,000. However, he warns that the test carries higher chances of both false positive and false negative results.

time, the bacteria can spread to other parts of the body, especially the bones and spinal cord, causing severe back pain and difficulty in walking.

He adds that brucellosis can also spread to the brain, leading to severe headaches and convulsions.

COMPLETING TREATMENT

According to Dr Kasozi, one of the challenges in brucellosis treatment is that patients often begin to feel better within the first one to two weeks, which can lead some to prematurely stop medication before completing the full six to eight-week course. In some cases, patients also keep leftover drugs for future use instead of completing the prescribed dose.

WHO IS AT RISK?

Dr Kasozi says there is no lifelong immunity to brucellosis even after successful treatment. He explains that although the body may temporarily develop antibodies against the *Brucella* bacteria, the protection does not last for long. As a result, people who continue engaging in high-risk exposure remain vulnerable to reinfection or recurrence of the disease.

He says people at higher risk of contracting brucellosis include livestock farmers, abattoir workers, butchers, milk traders, veterinarians, laboratory workers handling

blood samples, and people who assist animals during delivery.

BURDEN OF BRUCELLOSIS

According to Harriet Nabirye-Muloki and colleagues in a 2025 research article published in the *International Journal of Advanced Research* on the socio-economic significance of brucellosis in post-conflict Northern Uganda, the disease carries major economic and social consequences for both households and the livestock sector.

The study found that human brucellosis contributes to financial losses through hospital treatment, cost of drugs, patient out of pocket treatment expenses, loss of work and income due to illness.

Reports in Uganda indicate abortion rates of up to 23% among livestock herds that tested positive for brucellosis. According to the study, such abortions and related complications can have devastating financial implications on households due to loss of calves and reduced milk production.

The researchers further found that households with a member suffering from brucellosis incurred an estimated cumulative loss of about sh240,000 through treatment costs and other related expenses.

HEALTH & BEAUTY

YOUR WELLNESS GUIDE

I have had a chronic cough for two months, how can I treat it?
page 29



Can starting sex early cause cervical cancer?
page 29

THE HIDDEN BURDEN OF BRUCELLOSIS

Brucellosis continues to affect thousands of Ugandans, yet the disease remains widely misunderstood, frequently misdiagnosed and largely overlooked. Patients often endure months of pain and costly treatment before receiving the correct diagnosis, while experts warn that limited awareness and testing capacity are allowing the disease to persist, writes **Jackson Sewanyana**

Brucellosis, a neglected zoonotic disease linked to infected animal products, continues to torment many Ugandans through persistent pain, repeated misdiagnosis and prolonged suffering. In many cases, patients first seek treatment for malaria, typhoid or ulcers before the disease is correctly identified.

Caused by bacteria of the *Brucella* genus, the disease is endemic in Uganda and is marked by undulating fever that comes and goes, making early diagnosis difficult.

For many patients, these challenges translate into long periods of illness, uncertainty and disruption long before answers are found.

Jauharah Nalubega of Kigungu in Wakiso district, recalls suffering severe joint pain while in Senior Two after being diagnosed with brucellosis. "It took over a year to fully recover," she says. During that period, follow-up tests at different health facilities

often produced inconsistent results, with some hospitals returning negative results while others tested her positive for brucellosis. "During the period I tested positive for brucellosis, I used to take a lot of packed milk," she says.

On the other hand, for Praise Adoch, a nurse by profession, the journey to discovering she had brucellosis was long, costly and frustrating.

She says her health complications began in early 2022 during her first year at Ntungamo Health Training Institute.

"I used to suffer from headaches, stomach pain, severe back pain and pain in different joints in my body," Adoch recalls. She describes the back pain as the worst part of her suffering.

Adoch says it took five months and visits to several health facilities before an accurate diagnosis was made. Her search for treatment started in Mityana and Ntungamo districts before she sought further medical attention in Kampala.

Initially, she was tested for ulcers, malaria and



Haemobrucellosis can spread to humans through several ways, including drinking unboiled milk

typhoid, but the results were negative. Despite this, she was still given painkillers, ulcer and malaria medication after health workers suspected malaria might have failed to appear in the tests. However, the treatment did not improve her condition.

Due to the persistent severe back pain, doctors at a Nakasero Hospital recommended an MRI scan to examine her spine.

"Following the MRI, doctors recommended surgery on my spinal cord, but my mother and I hesitated after being told there was a possibility I could fail to walk again after the operation," Adoch says.

Upon declining the surgery, Adoch and her mother sought a second opinion at another hospital in Kampala, where one of the doctors suspected brucellosis and recommended tests and the results were positive. She was immediately started on treatment, a process that took her about three months to complete.

"After one and a half years, I went for a follow-up test and the results were negative for brucellosis," Adoch says.

Adoch says she frequently ate roasted meat and often drank packed milk without boiling it.

She adds that during treatment, doctors advised her to temporarily stop taking milk and other dairy products, as well as reduce or stop her meat intake.

"Even after completing treatment, I reduced my consumption of milk and meat," Adoch says, explaining how the illness reshaped her eating habits.

The prolonged pain, repeated misdiagnosis and costly treatment experienced by Nalubega and Adoch reflect a wider concern among health experts, who warn that brucellosis remains overlooked despite its prevalence in Uganda.

BRUCELLOSIS STILL OVERLOOKED

According to Dr Julius Julian Lutwama, the head of arbovirology and emerging infectious Diseases at the Uganda Virus Research Institute (UVRI), brucellosis continues to infect many Ugandans yet receives little attention compared to other public health threats. In a bid to strengthen the fight against zoonotic diseases, Dr Lutwama led a research project that examined the surveillance, control and

Continued on page 28